Town of Discovery Bay Community Services District







Water and Wastewater Rate Study

June 11, 2013



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June 11, 2013
Rick Howard, General Manager
Town of Discovery Bay Community Services District
1800 Willow Lake Road
Discovery Bay, CA 94505-9376

Re: Water and Wastewater Rate Study

Bartle Wells Associates (BWA) is pleased to submit to the Town of Discovery Bay Community Services District (District) the attached Water and Wastewater Rate Study. The report presents BWA's analysis of the capital and operating costs of the water and wastewater utilities. It lists the assumptions and rate design objectives used in BWA's analysis.

The report recommends updating rates and charges to more accurately recover the costs of providing service to the District's customers. Recommendations were developed with substantial input from District staff.

BWA finds that the water and wastewater rates and charges proposed in our report to be based on the cost of service, follow generally accepted rate design criteria, and adhere to the substantive requirements of Proposition 218. BWA believes that the proposed rates are fair and reasonable to the District's customers.

We enjoyed working with you on the rate study and appreciate the assistance and cooperation of District staff throughout the project. Please contact us if you ever have any future questions about this study and the rate recommendations.

Yours truly,

Thomas Gaffney, CIPFA

Thomas & Doffney

Principal

Alison Lechowicz Financial Analyst

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Executive Summary

Bartle Wells Associates (BWA) was engaged by the Town of Discovery Bay Community Services District (District) to review the rates and charges of the water and wastewater enterprise funds and to recommend updates to better reflect the cost of providing service to the District's customers. Throughout this report, BWA makes a number of recommendations and conclusions which are provided below. Ultimately, BWA recommends annual inflationary cost increases not less than 4% per year. These rate increases are based on the cost of service, are fair to customers, and meet the substantive requirements of Proposition 218. A schedule of recommended rates is provided as Table ES-1.

Key Findings:

- The District is in excellent financial shape, has positive net revenues, and has healthy fund reserves.
- The District recently sold \$14.15 million in water and wastewater enterprise revenue bonds at a favorable interest rate of 4.17% over a thirty year term.
- The Board of Directors has pledged to maintain revenues at a sufficient level to provide debt service coverage of 1.25 times the annual debt service payment.

Key Recommendations:

- The water and wastewater rates and charges should be increased by 4% per year to keep up with inflationary cost increases.
- Proposition 218 allows agencies to implement rates and charges that are lower than those approved via the Prop 218 hearing process. If annual cost increases are less than 4%, the District has the option to increase rates and charges by the actual annual change in the Consumer Price Index.
- BWA finds the District's rate structure to be reasonable (with one exception discussed below).
 Metered customers are charged a fixed meter fee in addition to a water usage charge based on actual water use. Unmetered water customers are billed on the annual tax roll.
- All residential customers are billed for wastewater service on the annual tax roll and all commercial customers are metered and billed a volume charge for actual wastewater flow.
- BWA finds that the meter charges for meters larger than 1" are inconsistent with the cost of providing service and should be scaled to the ratios recommended by the American Water Works Association.
- The District should continue to maintain emergency operating reserves of at least 180 days of operating expenses.
- The District should continue to meet or exceed the debt coverage legal requirement of 1.25 times the annual debt service payment.
- The District should continue to fund repair and replacement capital improvements to maintain the water and wastewater systems.

TABLE ES-1 PROPOSED WATER RATE INCREASES

ATER RATE INCREASES 2.7% 4.0% 4.0% 4.0%

WATER	Existing F	Y 2012/13	Proposed F	Y 2013/14	Proposed F	Y 2014/15	Proposed F	Y 2015/16	Proposed F	Y 2016/17
Residential Unmetered	Monthly	Yearly								
	(\$/month/DU)	(\$/year/DU)								
Parcel Size (Square Fee/DU)										
Condos w/irrigation	\$30.91	\$370.92	\$31.74	\$380.93	\$33.01	\$396.17	\$34.34	\$412.02	\$35.71	\$428.50
Condos w/o irrigation	\$20.31	\$243.72	\$20.86	\$250.30	\$21.69	\$260.31	\$22.56	\$270.72	\$23.46	\$281.55
Under 5,000	\$30.91	\$370.92	\$31.74	\$380.93	\$33.01	\$396.17	\$34.34	\$412.02	\$35.71	\$428.50
5,000 - 10,000	\$39.04	\$468.48	\$40.09	\$481.13	\$41.70	\$500.38	\$43.37	\$520.40	\$45.10	\$541.22
10,001 - 15,000	\$47.17	\$566.04	\$48.44	\$581.32	\$50.38	\$604.57	\$52.40	\$628.75	\$54.49	\$653.90
Over 15,000,	\$47.17	\$566.04	\$48.44	\$581.32	\$50.38	\$604.57	\$52.40	\$628.75	\$54.49	\$653.90
Vacant	\$14.67	\$176.00	\$15.06	\$180.75	\$15.67	\$187.98	\$16.29	\$195.50	\$16.94	\$203.32
Plus Each Additional 1,000	\$2.71	\$37.57	\$2.78	\$33.40	\$2.89	\$34.73	\$3.01	\$36.12	\$3.13	\$37.57
WATER	Monthly	Use								
All Metered	(\$/month)	(\$/ccf)								
Nonirrigation Account Charge:										
5/8" Inch Meter	\$8.95		\$9.50		\$9.88		\$10.28		\$10.69	
1 Inch Meter	\$9.25		\$9.50		\$9.88		\$10.28		\$10.69	
1 1/2 Inch Meter	\$9.56		\$19.00		\$19.76		\$20.55		\$21.37	
2 Inch Meter	\$10.41		\$30.40		\$31.62		\$32.88		\$34.20	
3 Inch Meter	\$16.63		\$60.80		\$63.23		\$65.76		\$68.39	
4 Inch Meter	\$18.93		\$95.00		\$98.80		\$102.75		\$106.86	
6 Inch Meter	\$24.30		\$190.00		\$197.60		\$205.50		\$213.72	
Irrigation Account Charge:										
5/8" Inch Meter	\$2.41		\$2.79		\$2.90		\$3.02		\$3.14	
1 Inch Meter	\$2.72		\$2.79		\$2.90		\$3.02		\$3.14	
1 1/2 Inch Meter	\$3.02		\$5.59		\$5.81		\$6.04		\$6.28	
2 Inch Meter	\$3.87		\$8.94		\$9.30		\$9.67		\$10.06	
3 Inch Meter	\$10.09		\$17.88		\$18.60		\$19.34		\$20.11	
4 Inch Meter	\$12.39		\$27.93		\$29.05		\$30.21		\$31.42	
6 Inch Meter	\$17.76		\$55.87		\$58.10		\$60.42		\$62.84	
Metered Usage Charge:										
All Usage		\$1.361		\$1.398		\$1.454		\$1.512		\$1.572

PROPOSED WASTEWATER RATE INCREASES

2.7% 4.0% 4.0% 4.0% 4.0% Proposed FY 2013/14 Proposed FY 2014/15 Proposed FY 2015/16 Proposed FY 2016/17

WASTEWATER	Existing F\	/ 2012/13	Proposed FY 2013/14		Proposed FY 2014/15		Proposed FY 2015/16		Proposed FY 2016/17	
Residential Unmetered	Monthly	Yearly	Monthly	Yearly	Monthly	Yearly	Monthly	Yearly	Monthly	Yearly
	(\$/month)	(\$/year)	(\$/month)	(\$/year)	(\$/month)	(\$/year)	(\$/month)	(\$/year)	(\$/month)	(\$/year)
Single Family - Each DU	\$55.77	\$669.24	\$57.28	\$687.31	\$59.57	\$714.80	\$61.95	\$743.39	\$64.43	\$773.13
Multiple Family/Condos - Each DU	\$41.83	\$501.96	\$42.96	\$515.51	\$44.68	\$536.13	\$46.47	\$557.58	\$48.32	\$579.88
Nonresidential Metered	Us	е	Use	е	Use		Use		Use	
	(\$/co	cf)	(\$/cd	cf)	(\$/ccf)		(\$/ccf)		(\$/ccf)	
Business/Government/Clubs	\$3.8	74	\$3.9	79	\$4.138		\$4.303		\$4.475	
Restaurants/Bars/Dining Facilities	\$11.3	344	\$11.6	350	\$12.1	116	\$12.601		\$13.105	
Schools	\$3.4	87	\$3.5	81	\$3.7	24	\$3.87	73	\$4.02	28
Other Domestic Strength Users	\$3.8	74	\$3.9	79	\$4.1	38	\$4.30	03	\$4.47	75

DU = Dwelling Unit

ccf = 100 cubic feet = 748 gallons

Illustrative increases are shown. The increase in FY2014 is proposed to be 2.7%. It should be noted that the current CPI for Water and Sewer using the U.S. Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, 12-month analysis table is 4.7%. For FY2014-2017 and beyond, the maximum annual increase is 4%.

Rate Setting Legislation and Principles

In conducting this water and wastewater rate study, BWA adheres to the Proposition 218 requirements as described in this section. Subsequent sections provide the detailed, cost of service basis for BWA's rate recommendations.

Proposition 218

Proposition 218, the "Right to Vote on Taxes Act", was approved by California voters in November 1996 and is codified as Articles XIIIC and XIIID of the California Constitution. Proposition 218 establishes requirements for imposing or increasing property related taxes, assessments, fees and charges. For many years, there was no legal consensus on whether water and sewer rates met the definition of "property related fees". In July 2006, the California Supreme Court essentially confirmed that Proposition 218 applies to water rates.

BWA recommends that the District follow the procedural requirements of Proposition 218 for all water and wastewater rate changes. These requirements include:

- Noticing Requirement: The District must mail a notice of proposed rate increases to all affected property owners. The notice must specify the basis of the fee, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
- **Public Hearing:** The District must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
- Rate Increases Subject to Majority Protest: At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established a number of substantive requirements that are generally deemed to apply to utility service charges, including:

- Cost of Service Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the "cost of service".
- Intended Purpose Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
- **Proportional Cost Recovery** The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
- No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property. Standby charges shall be classified as "assessments" which are governed by Article 13D Section 4.

Charges for water, wastewater, and refuse collection are exempt from the additional voting requirements of Proposition 218 provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

Rate Development Principles

In reviewing the District's current water rates and finances, BWA used the following criteria in developing our recommendations:

- 1. *Revenue Sufficiency:* Rates should recover the annual cost of service and provide revenue stability.
- 2. *Rate Impact:* While rates are calculated to generate sufficient revenue to cover operating and capital costs, they should be designed to minimize, as much as possible, the impacts on ratepayers.
- 3. *Equitable:* Rates should be fairly allocated among all customer classes based on their estimated demand characteristics. Each user class only pays its proportionate share.
- 4. *Practical:* Rates should be simple in form and, therefore, adaptable to changing conditions, easy to administer and easy to understand.
- 5. *Provide Incentive:* Rates provide price signals which serve as indicators to conserve water and to use water efficiently.

District Background

The District provides water supply, treatment, and delivery as well as wastewater collection, treatment, and disposal to approximately 14,000 residents. The Town last conducted a water and wastewater rate study in June 2011 which set rates through FY2013. This report provides recommended rates through FY2017.

Service Area and Customer Projections

The District provides service to about 5,700 single family, condominium, commercial, irrigation, and vacant parcels or accounts within the Town. About 1,900 parcels are metered and about 3,800 are unmetered. Metered customers are billed monthly for water use and are also charged a fixed fee which is billed on the annual property tax roll. Unmetered water customers are billed annual fixed charges on the property tax roll.

The District has 95 irrigation customers that are billed for water service but not for sewer service. All sewer customers are billed annually on the property tax roll. Residential customers are billed a flat annual fixed charge. Commercial customers are billed a volume wastewater rate based on actual wastewater flow.

Current Rates and Revenues

The District collects about \$2.7 million (net of delinquencies) in revenues from water service charges, see Table 1. Metered water use generates about \$930,000 annually or about one third of revenues. Fixed meter charges and unmetered customer charges generate about \$1.9 million annually or about two thirds of revenues. Fixed revenue sources provide financial stability for the District.

The typical metered residential customer has a 1" meter and uses 19 hundred cubic feet (ccf) per month. The typical monthly bill includes a \$9.25 fixed charge and \$25.86 in water usage charges (based on the rate of \$1.361/ccf times 19 units of water) which sum to a total monthly bill of \$35.11. The typical unmetered residential customer has a parcel size of 5,000 to 10,000 square feet and pays a fixed annual charge of \$468.48 or \$39.04 monthly. on average, unmetered customers use more water than metered customers and, thus, justifiably have a higher monthly cost than metered customers. The typical monthly bills for both metered and unmetered customers are low compared to other local agencies. Typical bills under FY2013 rates are shown in the Figures below. Detailed bill calculations are provided in the Appendices.

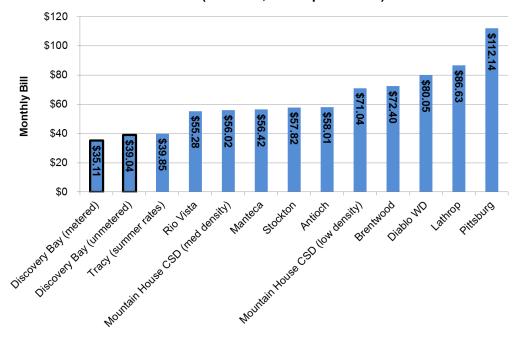
For FY2013, wastewater service charges provided about \$3.52 million (net of delinquencies) in revenue. The typical residential bill is \$669.24 annually or \$55.77 per month. The District's wastewater bill is at the higher end of regional agencies.

¹ BWA conducted the bills survey in early 2013 and based the bills, shown in the figures below, on the then-current rates of the agencies surveyed.

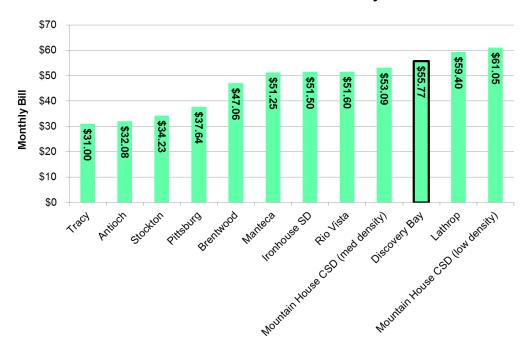
Table 1 Town of Discovery Bay Water and Wastewater Rate Study Current FY2012/13 Service Charge Revenues

Billed Monthly (Metered Cus	stomers)		Meto	ered Rate (\$/ccf)	\$1.361		
			Meter Fee	Estimated			
	No. of	Monthly	Annual	Annual Water	Annual Water		
Meter Size	Meters	Fee	Revenue	Use (ccf)	Use Fees		
Residential		^	*	.=			
1"	<u>1,878</u>	\$9.25	\$208,458.00	458,000	\$623,000		
Subtotal Residential	1,878						
Nonresidential							
Sandy Cove Shop Center							
1" '	1	\$9.25	\$111.00				
2"	7	\$10.41	\$874.44				
Lakeview Business Plaza		******	*******				
4"	1	\$18.93	\$227.16				
Other Metered		,	•				
1"	6	\$9.25	\$666.00				
1.5"	7	\$9.56	\$803.04				
2"	2	\$10.41	\$249.84				
3"	3	\$16.63	\$598.68				
4"	1	\$18.93	\$227.16				
Irrigation		·	·				
5/8"	1	\$2.41	\$28.92				
1"	19	\$2.72	\$620.16				
1.5"	15	\$3.02	\$543.60				
2"	25	\$3.87	\$1,161.00				
3"	2	\$10.09	\$242.16				
4"	<u>5</u>	\$12.39	\$743.40				
Subtotal Nonresidential	95	*	\$7,096.56	228,000	\$310,000		
Total Metered Customers	1,973		\$215,500	686,000	\$933,000		\$1,149,000
Property Tax Roll	Number o	of Parcels	Annı	ıal Fee	Total Annual	Revenues	
Type of Customer	Water	Sewer	Water	Sewer	Water	Sewer	
Condos w/irrigation	50	50	\$370.92	\$501.96	\$19,000	\$25,000	
Condos w/o irrigation	174	174	\$243.72	\$501.96	\$42,000	\$87,000	
Vacant	360	355	\$176.00	\$224.00	\$63,000	\$80,000	
Unmetered Water			·	,			
<5,000 SF	87	87	\$370.92	\$669.24	\$32,000	\$58,000	
5,001 to 10,000 SF	2,867	2,867	\$468.48	\$669.24	\$1,343,000	\$1,919,000	
>10,000 SF	337	337	\$566.04	\$669.24	\$191,000	\$226,000	
Metered	1,973	1,906	*	\$669.24	\$0	\$1,276,000	
Total	5,848	5,776		*****	\$1,690,0 00	\$3,671,000	\$5,361,000
	•	·		Summary	Water	Sewer	
				Metered	\$1,149,000	\$1,276,000	
				Unmetered	\$1,690,000	\$2,395,000	
				4% Delinquency	(\$114,000)	(\$147,000)	
				Total	\$2,725,000	\$3,524,000	\$6,249,000
				.5tai	Ψ2,120,300	40,024,000	↓ 0,2⊣0,000

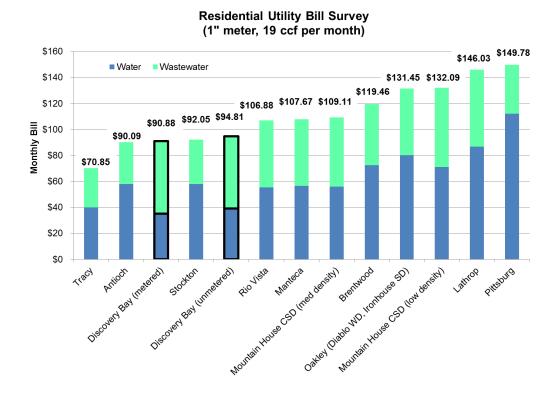
Residential Water Bill Survey (1" meter, 19 ccf per month)



Residential Wastewater Bill Survey



BWA also reviewed the combined utility bill consisting of both water and wastewater. The District's total utility bill is low compared with other local agencies.



Meter Charges

BWA reviewed the District's fixed meter charges and found that the charges for larger meter sizes should be increased. Typically, water agencies scale their meter charges to ratios developed by the American Water Works Association (AWWA) which are based on the demand or capacity in the system used by each meter. The capacity used by a 1" metered is considered the base meter equivalent. Larger meters sizes are scaled to the 1" meter. For example, under the AWWA standards, a 6" meter is equivalent to 20 residential customers with 1" meters, a ratio of 1:20. Using this ratio, a 6" meter should be charged the 20 times the 1" meter fee.

BWA found that the meter charges for larger meter sizes were too low when compared with the AWWA standards. This could result in commercial customers being undercharged for water service.

The recommended AWWA meter equivalents are shown in Table 2. By transitioning to the AWWA meter ratios, the District will increase the number of residential and commercial meter equivalents from 1,912 to 1,967.

For irrigation customers, BWA recommends that the District set the base meter size as 1". The District currently has one irrigation customer with a 5/8" meter. BWA recommends that this customer be charged the fixed fee of the 1" meter. BWA also recommends that the District transition the irrigation

meter fees to the AWWA meter ratios. The number of irrigation meter equivalents is recommended to increase from 115 to 193.

The meter charges for residential and commercial customers are larger than irrigation customers due to the cost of fire protection service which is not applied to irrigation accounts. Fire protection costs were developed in the District's previous rate study and staff confirmed that the costs are accurate and reasonable.

Table 2
Town of Discovery Bay
Water and Wastewater Rate Study
Metered Water Customers

Metered Rate (\$/ccf)

\$1.361

		Current		Current			Recommended
	No. of	Monthly	Current	Number of	Recommended	Recommended	Number of
Meter Size	Customers	Charge	Ratio ¹	Equivalents	AWWA Ratio ²	Monthly Charge	Equivalents
Residential &							
Commercial							
1"	1,885	\$9.25	1.00	1,885	1.0	\$9.25	1,885
1.5"	7	\$9.56	1.03	7	2.0	\$18.50	14
2"	9	\$10.41	1.13	10	3.2	\$29.60	29
3"	3	\$16.63	1.80	5	6.4	\$59.20	19
4"	2	\$18.93	2.05	4	10.0	\$92.50	20
6"	<u>0</u>	\$24.30	2.63	<u>0</u>	20.0	\$185.00	<u>0</u>
Total	1,906			1,912			1,967
Irrigation							
5/8"	1	\$2.41	1.00	1	1.0	\$2.72	1
1"	19	\$2.72	1.13	21	1.0	\$2.72	19
1.5"	15	\$3.02	1.25	19	2.0	\$5.44	30
2"	25	\$3.87	1.61	40	3.2	\$8.70	80
3"	2	\$10.09	4.19	8	6.4	\$17.41	13
4"	5	\$12.39	5.14	26	10.0	\$27.20	50
6"	<u>0</u>	\$17.76	7.37	<u>0</u>	20.0	\$54.40	<u>0</u>
Total	<u>0</u> 67			115			193

^{1 -} Residential and commercial customer meters are scaled to the 1" meter charge. Irrigation customers are scaled to the 5/8" meter charge. Current monthly charges were developed by Hornberger Engineering.

BWA found the service charges for unmetered water customers to be reasonable and does not recommend any rate structure changes

Wastewater Service Charges

The wastewater service charges are shown in Table 3. Condominiums, vacant parcels, and residential customers pay annual fixed charges on the tax roll. Commercial customers are metered and pay a volume charge per ccf of wastewater flow. The volume charges are scaled to the wastewater pollutant loading of each customer type and were developed in the District's previous rate study. BWA reviewed

^{2 -} American Water Works Association meter ratios.

the methodology of assigning strength characteristics and found the District's wastewater volume rates to be reasonable.

BWA also reviewed the fixed charge applied to condominiums, vacant parcels, and residential parcels. Vacant parcels are charged about one third of the residential charge, and condominiums are charged 75% of the residential rate. BWA finds these charges to be reasonable. In BWA's experience, wastewater agencies charge condominiums or multifamily units 60% to 90% of the single family residential charge.

Table 3 Town of Discovery Bay Water and Wastewater Rate Study Wastewater Service Charges and Revenues	
Wastewater Service Charges	Current
Condos w/irrigation	\$501.96
Condos w/o irrigation	\$501.96
Vacant	\$224.00
Residential	
<5,000 SF	\$669.24
5,001 to 10,000 SF	\$669.24
>10,000 SF	\$669.24
Metered Commercial	Per ccf
Business/Government/Clubs	\$3.874

\$11.344

\$3.487

\$3.874

Restaurants/Bars/Dining Facilities

Other Domestic Strength Users

Customer and Rate Projections

Schools

BWA evaluated the District's current customer base and projected new customers through FY2020. The District has a number of active developments that will add residential, commercial, and irrigation customers over the coming years. These customers will pay capacity fees to connect to the water and wastewater systems, be added to the ratebase, and pay monthly or annual service charges.

Table 4 shows the projected customer growth in terms of equivalent dwelling units (EDU), also referred to as meter equivalents throughout this report. One equivalent dwelling unit is defined as a single family customer with a 1" meter. Table 4 includes EDU counts for new commercial and irrigation customers in addition to residential customers.

Table 5 shows the current and projected revenue from the water and wastewater service charges including service charge revenues from new customers. Over the next four years and beyond, BWA recommends that the District implement percentage increases to all water and wastewater rates and charges to "keep up" with inflationary cost increases. The District is granted the authority to pass through inflationary cost increases by the Proposition 218 Omnibus Implementation Act, Govt. Code Sections 53755 and 53756.

Table 4
Town of Discovery Bay
Water and Wastewater Rate Study
Projected Development

100 2	43 2	20					
2							
_	2	2					
102							
102							
102	45	22					
Discovery Bay West (Hofmann Development) - Total Wastewater EDUs							
100	43	20					
0	0	0					
10	5	5					
2	1	0					
	2	2					
3	2	2					
50	10	10					
	<u>5</u>	<u>0</u>					
77	25	19					
0	0	0					
0	0	0					
1	1	0					
<u>1</u>	<u>0</u>	0					
2	1	0					
79	26	19					
77	25	19					
181	71	41					
177	68	39					
	0 10 2 2 3 50 10 77 0 0 1 1 1 2	100 43 0 0 10 5 2 1 2 2 3 2 50 10 10 5 77 25 0 0 0 0 1 1 1 1 1 0 2 1 79 26 77 25					

Table 5
Town of Discovery Bay
Water and Wastewater Rate Study
Service Charge Projection

		w/Recommended				
	Current	Equivalents	FY2014	FY2015	FY2016	FY2017
Increase in Metered and Unmetered Wa	ater Charges ¹		2.7%	4.0%	4.0%	4.0%
Water Use						
Annual Consumption (ccf) ²	686,000	686,000	737,064	774,456	833,964	884,124
Rate	\$1.361	\$1.361	\$1.398	\$1.454	\$1.512	\$1.572
Total Water Use Revenue	\$934,000	\$934,000	\$1,030,000	\$1,126,000	\$1,261,000	\$1,390,000
Water Meter Fixed Charge						
Residential and Commercial						
New Customers			216	161	256	216
Equivalents	1,912	1,967	2,183	2,344	2,600	2,816
Monthly Charge	\$9.25	\$9.25	\$9.50	\$9.88	\$10.28	\$10.69
Annual Revenue	\$212,215	\$218,337	\$249,000	\$278,000	\$321,000	\$361,000
Irrigation						
New Customers			8	3	5	4
Equivalents	115	193	201	204	209	213
Monthly Charge	\$2.41	\$2.41	\$2.48	\$2.58	\$2.68	\$2.79
Annual Revenue	\$3,339	\$5,576	\$6,000	\$6,000	\$7,000	\$7,000
Water Meter Fixed Charge Revenue	\$216,000	\$224,000	\$255,000	\$284,000	\$328,000	\$368,000
Unmetered Water Charge Revenue	\$1,690,000	\$1,690,000	\$1,736,000	\$1,805,000	\$1,877,000	\$1,952,000
Increase in Wastewater Charges ¹			2.7%	4.0%	4.0%	4.0%
Sewer Charge Revenue	\$3,671,000	\$3,671,000	\$3,770,000	\$3,921,000	\$4,078,000	\$4,241,000

Note: Revenues shown in this table do not have a delinquency factor included. A delinquency factor is added into the revenues in subsequent tables.

^{1 -} Illustrative increases are shown. It should be noted that the current CPI for Water and Sewer using the U.S. Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, 12-month analysis table is 4.7%. For the FY 2013-14 year, it is proposed that the rates increase 2.7% over current rates. Actual increases in years FY2014-2017 and beyond will be set at the annual average change in the CPI, assumed to be 4%.

^{2 -} Each new customer is assumed to use 19 ccf monthly/228 ccf annually (the average residential consumption). Irrigation and commercial customers are varied and on average use more than the average residential customer. However, for projecting water use, each new irrigation and commercial customer is assumed to use the residential average.

Table 6 Town of Discovery Bay Water and Wastewater Rate Study Service Charge Schedule

	Current	Equivalents	FY2014	FY2015	FY2016	FY2017
Illustrative Increase in Metered and	Unmetered Ra	tes ¹	2.7%	4.0%	4.0%	4.0%
Water Use Rate	\$1.361	\$1.361	\$1.398	\$1.454	\$1.512	\$1.572
Water Meter Fixed Charge Residential & Commercial						
5/8"	\$8.95	\$9.25	\$9.50	\$9.88	\$10.28	\$10.69
1"	\$9.25	\$9.25	\$9.50	\$9.88	\$10.28	\$10.69
1.5"	\$9.56	\$18.50	\$19.00	\$19.76	\$20.55	\$21.37
2"	\$10.41	\$29.60	\$30.40	\$31.62	\$32.88	\$34.20
3"	\$16.63	\$59.20	\$60.80	\$63.23	\$65.76	\$68.39
4"	\$18.93	\$92.50	\$95.00	\$98.80	\$102.75	\$106.86
6"	\$24.30	\$185.00	\$190.00	\$197.60	\$205.50	\$213.72
Irrigation						
5/8"	\$2.41	\$2.72	\$2.79	\$2.90	\$3.02	\$3.14
1"	\$2.72	\$2.72	\$2.79	\$2.90	\$3.02	\$3.14
1.5"	\$3.02	\$5.44	\$5.59	\$5.81	\$6.04	\$6.28
2"	\$3.87	\$8.70	\$8.94	\$9.30	\$9.67	\$10.06
3"	\$10.09	\$17.41	\$17.88	\$18.60	\$19.34	\$20.11
4"	\$12.39	\$27.20	\$27.93	\$29.05	\$30.21	\$31.42
6"	\$17.76	\$54.40	\$55.87	\$58.10	\$60.42	\$62.84
Unmetered Water Charge						
Condos w/irrigation	\$370.92	\$370.92	\$380.93	\$396.17	\$412.02	\$428.50
Condos w/o irrigation	\$243.72	\$243.72	\$250.30	\$260.31	\$270.72	\$281.55
Vacant	\$176.00	\$176.00	\$180.75	\$187.98	\$195.50	\$203.32
Unmetered Water						
<5,000 SF	\$370.92	\$370.92	\$380.93	\$396.17	\$412.02	\$428.50
5,001 to 10,000 SF	\$468.48	\$468.48	\$481.13	\$500.38	\$520.40	\$541.22
>10,000 SF	\$566.04	\$566.04	\$581.32	\$604.57	\$628.75	\$653.90
Sewer Charges						
Condos w/irrigation	\$501.96	\$501.96	\$515.51	\$536.13	\$557.58	\$579.88
Condos w/o irrigation	\$501.96	\$501.96	\$515.51	\$536.13	\$557.58	\$579.88
Vacant	\$224.00	\$224.00	\$230.05	\$239.25	\$248.82	\$258.77
Unmetered Water						
<5,000 SF	\$669.24	\$669.24	\$687.31	\$714.80	\$743.39	\$773.13
5,001 to 10,000 SF	\$669.24	\$669.24	\$687.31	\$714.80	\$743.39	\$773.13
>10,000 SF	\$669.24	\$669.24	\$687.31	\$714.80	\$743.39	\$773.13
Business/Government/Clubs	\$3.874	\$3.874	\$3.979	\$4.138	\$4.303	\$4.475
Restaurants/Bars/Dining Facilities	\$11.344	\$11.344	\$11.650	\$12.116	\$12.601	\$13.105
Schools	\$3.487	\$3.487	\$3.581	\$3.724	\$3.873	\$4.028
Other Domestic Strength Users	\$3.874	\$3.874	\$3.979	\$4.138	\$4.303	\$4.475
-						

^{1 -} Illustrative increases are shown. It should be noted that the current CPI for Water and Sewer using the U.S. Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, 12-month analysis table is 4.7%. For the FY 2013-14 year, it is proposed that the rates increase 2.7% over current rates. Actual increases in years FY2014-2017 and beyond will be set at the annual average change in the CPI, assumed to be 4%.

Financial Planning Recommendations

BWA developed performance metrics for the water and wastewater funds. In order of priority, the financial performance metrics are:

- 1) Revenues must be sufficient to fund all operations and maintenance costs.
- 2) Net revenues (operating revenues less operating expenses) must be 1.25 times the annual debt service payment.
- 3) The operating funds should maintain an emergency reserve not less than six months of operating expenses.
- 4) As needed, the operating funds should make transfers to the capital funds to repair and replace aging infrastructure.
- 5) Expansion-related capital projects that are needed to accommodate new development should be funded through capacity fee revenues.

To meet these obligations, BWA recommends that the District implement inflationary rate increases of 4% per year.

Operating Cash Flow Projections

Current operating cost for the water and wastewater funds are expected to increase by 6% in FY2014 and 3% per year thereafter. BWA estimated the operating funds beginning fund balances based on the FY2012 Audit. Total cash and investments at year end for FY2012 was over \$6 million for the combined water and wastewater fund. The District estimates that water revenues account for 40% of the fund balance and wastewater revenues account for 60% of the fund balance. Thus, the beginning fund balance for the water operating fund is assumed to be about \$2.4 million and the wastewater beginning fund balance is assumed to be \$3.65 million for FY2013.

Table 7 shows the water operating fund cash flows. Revenues consist solely of water service charges. Operating expenses include contract services, repairs and maintenance, utilities, salaries, and other costs. In addition to operating expenses, the water fund has \$88,000 to \$89,000 in annual debt service costs related to the 2012 Enterprise Revenue Bonds. With recommended increases, the water service charges are projected to generate positive net revenues after funding operations and debt service. However, with the additional cost of capital projects, total net revenues are projected to be negative in FY2015 and FY2017. Despite two years of negative net revenues, the water operating fund is projected to maintain a healthy fund balance.

Table 7 **Town of Discovery Bay Water and Wastewater Rate Study Water Operating Cash Flows**

	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Beginning balance	\$2,400,000	\$3,092,000	\$3,641,000	\$3,552,000	\$3,722,000
Revenues					
Water service					
Property Taxes	1,690,000	1,736,000	1,805,000	1,877,000	1,952,000
Meter Charges	216,000	255,000	284,000	328,000	368,000
Water Use	933,000	1,030,000	1,126,000	1,261,000	1,390,000
4% Delinquency	<u>(114,000)</u>	<u>(121,000)</u>	<u>(129,000)</u>	<u>(139,000)</u>	<u>(148,000)</u>
Total Revenues	2,725,000	2,900,000	3,086,000	3,327,000	3,562,000
% increase in operating expenses Expenses		6.0%	3.0%	3.0%	3.0%
Operating Expenses	1,945,000	2,062,000	2,124,000	2,188,000	2,254,000
2012 Revenue Bonds Debt Service	88,000	88,000	89,000	88,000	88,000
Total Expenses	2,033,000	2,150,000	2,213,000	2,276,000	2,342,000
Net Revenues	692,000	750,000	873,000	1,051,000	1,220,000
Transfer to Capital Fund	0	201,000	962,000	881,000	1,884,000
Total Net Revenues	692,000	549,000	(89,000)	170,000	(664,000)
O&M Ending balance	3,092,000	3,641,000	3,552,000	3,722,000	3,058,000
O&M Minimum balance target ¹	973,000	1,031,000	1,062,000	1,094,000	1,127,000
1 - 180 days O&M expenses					

Table 8 shows the wastewater operating cash flows. The majority of revenues are wastewater service charges. In FY2013, the District collected reimbursement from a legal case. In subsequent years, the District expects to collect only minimal reimbursement revenues. Expenses for the wastewater operating fund include a wastewater service contract and other costs similar to the expenses of the water operating fund and including contract services, repairs and maintenance, utilities, salaries, and other costs. The annual debt service cost for the wastewater fund ranges from \$737,000 to \$743,000 over the next four years.

As shown in Table 8, net operating revenues are marginally negative over the financial planning period. Operating net revenues are projected to range from \$108,000 to negative \$201,000. This slight deficit is roughly equal to the 4% delinquency factor assumed for planning purposes and is easily absorbed by the wastewater operating fund balance. Despite the projected deficit, the wastewater fund is expected to maintain more than the recommended minimum reserve of 180 days of operating costs.

The combined water and wastewater operating cash flow is provided in Table 9.

Water and Wastewater Rate Study Wastewater Operating Cash Flows					
	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Beginning balance	\$3,647,000	\$3,755,000	\$3,554,000	\$3,257,000	\$3,164,000
Revenues Wastewater service (property taxes) 4% Delinquency Reimbursements Total revenues	3,671,000 (147,000) <u>240,000</u> 3,764,000	3,770,000 (151,000) <u>10,000</u> 3,629,000	3,921,000 (157,000) <u>10,000</u> 3,774,000	4,078,000 (163,000) <u>10,000</u> 3,925,000	4,241,00 (170,000 <u>10,00</u> 4,081,00
% increase in expenses		6.0%	3.0%	3.0%	3.09
Expenses Operating Expenses 2012 Revenue Bonds Debt Service Total Expenses	2,915,000 <u>741,000</u> 3,656,000	3,090,000 <u>740,000</u> 3,830,000	3,183,000 <u>743,000</u> 3,926,000	3,278,000 <u>740,000</u> 4,018,000	3,376,00 <u>737,00</u> 4,113,00
Net Revenues	108,000	(201,000)	(152,000)	(93,000)	(32,000
Transfer to Capital Fund	0	0	145,000	0	564,00
Total Net Revenues	108,000	(201,000)	(297,000)	(93,000)	(596,000
O&M Ending balance	3,755,000	3,554,000	3,257,000	3,164,000	2,568,00
O&M Minimum balance target ¹	1,457,500	1,545,000	1,591,500	1,639,000	1,688,00
1 - 180 days O&M expenses	_				
Table 9 Town of Discovery Bay Water and Wastewater Pate Study			-		
	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projecte FY 201
Town of Discovery Bay Water and Wastewater Rate Study		Projected FY 2014 \$6,848,000	Projected FY 2015 \$7,196,000	Projected FY 2016 \$6,811,000	
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows	FY 2013	FÝ 2014	FÝ 2015	FÝ 2016	FY 201
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses	FY 2013 \$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,000 7,643,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements	FY 2013 \$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000	\$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000	\$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000 7,252,000	\$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,00 10,00 7,643,00 3.09 5,630,00 825,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses Expenses Operating Expenses 2012 Revenue Bonds Debt Service	\$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) <u>240,000</u> 6,490,000 4,860,000 <u>829,000</u>	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000 6.0% 5,152,000 828,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000 3.0% 5,307,000 832,000	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000 7,252,000 3.0% 5,466,000 828,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,000 10,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses Expenses Operating Expenses 2012 Revenue Bonds Debt Service Total Expenses	\$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000 6,490,000 4,860,000 829,000 5,689,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000 6.0% 5,152,000 828,000 5,980,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000 3.0% 5,307,000 832,000 6,139,000	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000 7,252,000 3.0% 5,466,000 828,000 6,294,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,000 10,00 7,643,00 3.09 5,630,00 825,00 6,455,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses Expenses Operating Expenses 2012 Revenue Bonds Debt Service Total Expenses Net operating revenues	FY 2013 \$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000 6,490,000 4,860,000 829,000 5,689,000 801,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000 6.0% 5,152,000 828,000 5,980,000 549,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000 3.0% 5,307,000 832,000 6,139,000 722,000	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000 7,252,000 3.0% 5,466,000 828,000 6,294,000 958,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 7,643,00 3.09 5,630,00 825,00 6,455,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses Expenses Operating Expenses 2012 Revenue Bonds Debt Service Total Expenses Net operating revenues Transfer to Capital Fund Total net revenues	\$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000 6,490,000 4,860,000 829,000 5,689,000 801,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000 6.0% 5,152,000 828,000 5,980,000 549,000 201,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000 3.0% 5,307,000 832,000 6,139,000 722,000 1,107,000	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 (302,000) 10,000 7,252,000 3.0% 5,466,000 828,000 6,294,000 958,000 881,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,000 10,00 7,643,00 825,00 6,455,00 1,188,00 2,448,00
Town of Discovery Bay Water and Wastewater Rate Study Combined Cash Flows Beginning balance Revenues Service Charges Water Property Taxes Meter Charges Water Use Sewer Charges 4% Delinquency Reimbursements Total revenues % increase in expenses Expenses Operating Expenses 2012 Revenue Bonds Debt Service Total Expenses Net operating revenues Transfer to Capital Fund	\$6,047,000 1,690,000 216,000 933,000 3,671,000 (260,000) 240,000 6,490,000 4,860,000 829,000 5,689,000 0 801,000	FY 2014 \$6,848,000 1,736,000 255,000 1,030,000 3,770,000 (272,000) 10,000 6,529,000 6.0% 5,152,000 828,000 5,980,000 549,000 201,000 348,000	FY 2015 \$7,196,000 1,805,000 284,000 1,126,000 3,921,000 (285,000) 10,000 6,861,000 3.0% 5,307,000 832,000 6,139,000 722,000 1,107,000 (385,000)	FÝ 2016 \$6,811,000 1,877,000 328,000 1,261,000 4,078,000 10,000 7,252,000 3.0% 5,466,000 828,000 6,294,000 958,000 881,000 77,000	FY 201 \$6,888,00 1,952,00 368,00 1,390,00 4,241,00 (318,000 7,643,00 5,630,00 825,00 6,455,00 1,188,00 2,448,00 (1,260,000

Capital Revenues and Expenses

The District maintains capital funds for both the water and wastewater enterprises. Recently completed capital improvement budgets included debt financed projects, redundant system projects, and repair and replacement projects. Capital improvements are funded through debt issuance, capacity fee revenue, and service charge revenue shown as transfers from the operating funds. The District issued \$14.15 million in Enterprise Revenue Bonds on August 15, 2012. \$1.5 million of the bond proceeds is designated to fund Well 7 planning and construction, \$12.6 million is designated for wastewater improvements, and approximately \$285,000 is designated for costs of issuance. For financial planning purposes, BWA assumed that the debt proceeds are the beginning fund balances for the water and wastewater capital funds for FY2013.

In addition to bond proceeds, capacity fees serve as another major revenue source for the funding of capital improvements. BWA conducted a capacity fee study for the District in October 2012 and calculated the water capacity fee to be \$3,900 per EDU and the wastewater capacity fee to be \$9,860 per EDU. The capacity fees will increase automatically each year by the annual change to the Engineering News Record's Construction Cost Index. BWA assumes this change to be 3% per year.

The capacity fees calculated by BWA apply to most new developments. The Hofmann Land Development Company (Hofmann) signed a Service Agreement for committed capacity at a specified fee. Hofmann intends to develop 557 EDUs over the next four years in the Discovery Bay West development. The total estimated revenue generated by capacity fees is provided in Tables 10 and 11.

The water capital fund is provided in Table 12. Over the next four years, the District expects to fund \$8.1 million in capital projects, the majority of which are repair and replacement of Well 8 and water mains. Table 13 shows the wastewater capital fund. The District expects to fund approximately \$18.3 million in wastewater capital projects. The majority of projects are bond financed. The combined capital cash flow is provided in Table 14.

Table 10 Town of Discovery Bay Water and Wastewater Rate Study Water Capacity Fee Revenues

			Estimated	EDUs			
Lines		FY2014	FY2015	FY2016	FY2017	Total	Notes
	Water Capacity Fee Revenue						
	Hofmann Development						
	Water Committed Capacity						
	Water EDUs	214	70	0	0	284	
	Water Capacity Fee	\$297	\$297	\$297	\$297		
[1]	Total Revenue from Water Committed Capacity	\$64,000	\$21,000	\$0	\$0	\$85,000	
	Beyond Committed Capacity						
	Water EDUs	0	51	121	101	273	
	Water Capacity Fee	\$4,017	\$4,138	\$4,262	\$4,389		
[2]	Total Revenue Beyond Committed Capacity	\$0	\$211,000	\$516,000	\$443,000	\$1,170,000	
[3]	Total Hofmann Water Capacity Fee Revenue	\$64,000	\$232,000	\$516,000	\$443,000	\$1,255,000	[1] + [2]
	Discovery Bay, Byron, Evans, Pantages, Newport Pointe						
	Water EDUs	10	43	140	119	312	
	Water Capacity Fee	\$4,017	\$4,138	\$4,262	\$4,389		
	Total Water Capacity Fee Revenue Discovery Bay, Byron,						
[4]	Evans, Pantages, Newport Pointe	\$40,000	\$178,000	\$597,000	\$522,000	\$1,337,000	
	Total Water Capacity Fee Revenue	\$104,000	\$410,000	\$1,113,000	\$965,000	\$2,592,000	[3] + [4]

Note: The FY2013 capacity fee was developed in BWA's Water and Wastewater Capacity Fee Technical Memorandum, October 2012. The capacity fee is increased annually based on the annual change in the Engineering News Record Construction Cost Index for San Francisco, assumed to be 3%.

Table 11 Town of Discovery Bay Water and Wastewater Rate Study Wastewater Capacity Fee Revenues

			Estimate	ed EDUs			
Lines		FY2014	FY2015	FY2016	FY2017	Total	Notes
	Wastewater Capacity						
	Hofmann Development						
	Wastewater Committed Capacity						
	Wastewater EDUs	206	120	120	100	546	
	Wastewater Capacity Fee	\$2,789	\$2,789	\$2,789	\$2,789		
[1]	Total Revenue from Wastewater Committed Capacity	\$575,000	\$335,000	\$335,000	\$279,000	\$1,524,000	
	Beyond Committed Capacity						
	Wastewater EDUs	0	0	0	0	0	
	Wastewater Capacity Fee	\$10,156	\$10,460	\$10,774	\$11,098		
[2]	Total Revenue Beyond Committed Capacity	\$0	\$0	\$0	\$0	\$0	
[3]	Total Hofmann Wastewater Capacity Fee Revenue	\$575,000	\$335,000	\$335,000	\$279,000	\$1,524,000	[1] + [2]
	Discovery Bay, Byron, Evans, Pantages, Newport Pointe						
	Wastewater EDUs	10	43	140	119	312	
	Wastewater Capacity Fee	\$10,156	\$10,460	\$10,774	\$11,098		
	Total Wastewater Capacity Fee Revenue Discovery Bay,						
[4]	Byron, Evans, Pantages, Newport Pointe	\$102,000	\$450,000	\$1,508,000	\$1,321,000	\$3,381,000	
	Total Wastewater Capacity Fee Revenue	\$677,000	\$785,000	\$1,843,000	\$1,600,000	\$4,905,000	[3] + [4]

Note: The FY2013 capacity fee was developed in BWA's Water and Wastewater Capacity Fee Technical Memorandum, October 2012. The capacity fee is increased annually based on the annual change in the Engineering News Record Construction Cost Index for San Francisco, assumed to be 3%.

Table 12 Town of Discovery Bay Water and Wastewater Rate Study Water Capital Cash Flows

Beginning Balance	Current FY 2013 1,500,000	Projected FY 2014 899,000	Projected FY 2015 0	Projected FY 2016	Projected FY 2017 0
Revenues Capacity Fees Interest Earnings Transfer from Operating Fund Total revenues	65,000 3,000 <u>0</u> 68,000	104,000 3,000 <u>201,000</u> 308,000	410,000 3,000 <u>962,000</u> 1,375,000	1,113,000 3,000 <u>881,000</u> 1,997,000	965,000 3,000 <u>1,884,000</u> 2,852,000
Capital Improvements Bond Financed Projects Well 7 Total Bond Financed Projects	221,000 221,000	627,000 627,000	627,000 627,000	<u>0</u> 0	<u>0</u> 0
Growth Induced Projects Treatment Filter Unit at Willow Lake WTP Backwash Tank at Willow Lake WTP New Recycle Pumps at Willow Lake WTP Water Storage Tank at Newport WTP Total Growth Induced Projects	0 0 0 0 0	0 0 0 0 0	21,000 0 0 0 21,000	238,000 29,000 0 <u>86,000</u> 353,000	0 331,000 72,000 <u>994,000</u> 1,397,000
Repair and Replacement Projects Well 8 8" Main Replacements Water Infrastructure Replacement Equipment/Pumps Motors/Vehicles Well 1B Pump Upgrade Willow Lake WTP Chemical Room Upgrade Security Door Locks Total Repair and Replacement Projects	0 150,000 200,000 63,000 0 25,000 10,000 448,000	50,000 250,000 200,000 50,000 30,000 0 0 580,000	227,000 250,000 200,000 50,000 0 0 0 727,000	644,000 750,000 200,000 50,000 0 0 0	594,000 611,000 200,000 50,000 0 0 0 1,455,000
Total Capital Improvements	669,000	1,207,000	1,375,000	1,997,000	2,852,000
Total net revenues	(601,000)	(899,000)	0	0	0
Ending Balance	899,000	0	0	0	0

Note: If development does not occur, growth induced projects will be delayed.

Table 13 Town of Discovery Bay Water and Wastewater Rate Study Wastewater Capital Cash Flows

	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Beginning balance	\$12,600,000	\$7,646,000	\$2,585,000	\$0	\$555,000
Revenues					
Capacity Fees	0	677,000	785,000	1,843,000	1,600,000
Interest Earnings	10,000	10,000	10,000	10,000	10,000
Transfer from Operating Fund	<u>0</u>	<u>0</u>	<u>145,000</u>	<u>0</u>	<u>564,000</u>
Total revenues	10,000	687,000	940,000	1,853,000	2,174,000
Capital Improvements					
Bond Financed Projects					
Influent PS Modifications	94,000	981,000	0	0	0
Re-Activate Pump Station W	30,000	355,000	0	0	0
Emergency Storage Facilities	15,000	114,000	114,000	0	0
Splitter Box, Ox Ditch, Clarifier, RAS Pump	605,000	2,723,000	2,723,000	0	0
Solids Improvements, Phase 1	3,466,000	385,000	0	0	0
Lift Station F Rehab	0	250,000	250,000	0	0
UV Bank	<u>250,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Bond Financed Projects	4,460,000	4,808,000	3,087,000	0	0
Growth Induced Projects					
Secondary Effluent Pump Station Modification	0	0	0	38,000	213,000
Secondary Effluent Equalization	0	0	0	102,000	578,000
Effluent Filtration	0	0	0	500,000	750,000
Upgrade UV Disinfection	0	0	0	120,000	750,000
Add Pump to Export Pump Station	<u>0</u>	<u>0</u> 0	<u>0</u>	100,000	<u>0</u>
Total Growth Induced Projects	0	0	0	860,000	2,291,000
Repair and Replacement Projects					
Pumps/Motors/Generators	75,000	75,000	75,000	75,000	75,000
UV Disinfection Viral Bioassay Test	28,000	0	0	0	0
Collection System Pump Station Improvements	110,000	135,000	135,000	135,000	135,000
SCADA Improvements	0	350,000	0	0	0
Filter to Plant 1	8,000	42,000	0	0	0
NPDES Permit Renewal	40,000	40,000	0	0	0
Rehab Manholes	18,000	18,000	18,000	18,000	18,000
Raise Manholes	10,000	10,000	10,000	10,000	10,000
Spare NTU Sensor	0	20,000	0	0	0
Road Crossing Ramps	15,000	0	0	0	0
Salinity Project	0	50,000	0	0	0
Sewer Infrastructure Replacement	<u>200,000</u>	<u>200,000</u>	<u>200,000</u>	<u>200,000</u>	<u>200,000</u>
Total Repair and Replacement Projects	504,000	940,000	438,000	438,000	438,000
Total Capital Improvements	4,964,000	5,748,000	3,525,000	1,298,000	2,729,000
Total Net Revenues	(4,954,000)	(5,061,000)	(2,585,000)	555,000	(555,000)
Capital Ending balance	7,646,000	2,585,000	0	555,000	0

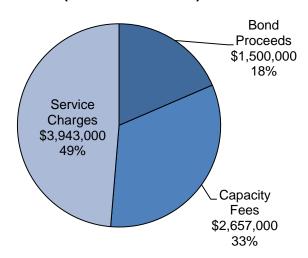
Note: If development does not occur, growth induced projects will be delayed.

Table 14 Town of Discovery Bay Water and Wastewater Rate Study Combined Capital Cash Flows

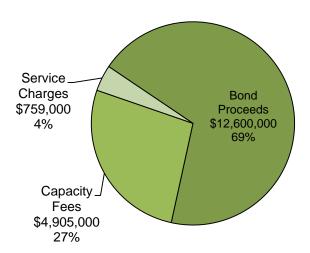
	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Beginning balance	\$14,100,000	\$8,545,000	\$2,585,000	\$0	\$555,000
Revenues					
Capacity Fees	65,000	781,000	1,195,000	2,956,000	2,565,000
Interest Earnings	13,000	13,000	13,000	13,000	13,000
Transfer from Operating Fund	<u>0</u>	201,000	1,107,000	<u>881,000</u>	2,448,000
Total Revenues	78,000	995,000	2,315,000	3,850,000	5,026,000
Capital Improvements					
Bond Financed Projects	4,681,000	5,435,000	3,714,000	0	0
Growth Induced Projects	0	0	21,000	1,213,000	3,688,000
Repair and Replacement Projects	952,000	1,520,000	1,165,000	2,082,000	1,893,000
Total Capital Improvements	5,633,000	6,955,000	4,900,000	3,295,000	5,581,000
Total Net Revenues	(5,555,000)	(5,960,000)	(2,585,000)	555,000	(555,000)
Capital Ending balance	8,545,000	2,585,000	0	555,000	0

Note: If development does not occur, growth induced projects will be delayed.

Funding Sources for Water Capital Improvements (Total \$8.1 Million)



Funding Sources for Wastewater Capital Improvements (Total \$18.3 Million)



Debt Service Coverage

The legal covenants for the 2012 Enterprise Revenue Bonds require that the District maintain debt service coverage of 1.25 times the annual debt service payment (operating revenues less operating expenses must be 1.25 times the annual debt payment). Capital improvement project costs are not included in the debt service coverage calculation. BWA reviewed the legal covenants and opines that capacity fee revenues may be included as operating revenues and may be pledged to debt service coverage.

The water operating fund debt service coverage is shown in Table 15. Debt service coverage is projected to range from 9.60 times to 25.83 times the annual water debt service payment, well above the required 1.25 times.

Table 15
Town of Discovery Bay
Water and Wastewater Rate Study
Water Fund Debt Service Coverage Projections

	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Revenues					
Property Taxes	1,690,000	1,736,000	1,805,000	1,877,000	1,952,000
Meter Charges	216,000	255,000	284,000	328,000	368,000
Water Use	933,000	1,030,000	1,126,000	1,261,000	1,390,000
Capacity Fees	65,000	104,000	410,000	1,113,000	965,000
4% Delinquency	(114,000)	(121,000)	(129,000)	(139,000)	(148,000)
Total Revenues	2,790,000	3,004,000	3,496,000	4,440,000	4,527,000
Operating Expenses	1,945,000	2,062,000	2,124,000	2,188,000	2,254,000
Net Operating Revenues	845,000	942,000	1,372,000	2,252,000	2,273,000
2012 Revenue Bonds Debt Service	88,000	88,000	89,000	88,000	88,000
Debt Service Coverage	9.60	10.70	15.42	25.59	25.83

Table 16 shows the wastewater debt service coverage calculation. The wastewater fund may or may not meet the debt coverage requirement of 1.25 times the annual debt service payment in the current fiscal year. However, BWA projects adequate coverage over the financial planning period. Table 17 shows the combined debt service coverage projection.

Table 16 Town of Discovery Bay Water and Wastewater Rate Study Wastewater Fund Debt Service Coverage Projections

	Current FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
Revenues Wastewater service (property taxes) 4% Delinquency Reimbursements Capacity Fees Total Revenues	3,671,000 (147,000) 240,000 0 3,764,000	3,770,000 (151,000) 10,000 <u>677,000</u> 4,306,000	3,921,000 (157,000) 10,000 785,000 4,559,000	4,078,000 (163,000) 10,000 1,843,000 5,768,000	4,241,000 (170,000) 10,000 <u>1,600,000</u> 5,681,000
Operating Expenses	2,915,000	3,090,000	3,183,000	3,278,000	3,376,000
Net Operating Revenues	849,000	1,216,000	1,376,000	2,490,000	2,305,000
2012 Revenue Bonds Debt Service	741,000	740,000	743,000	740,000	737,000
Debt Service Coverage	1.15	1.64	1.85	3.36	3.13

Table 17 Town of Discovery Bay Water and Wastewater Rate Study Combined Debt Service Coverage Projections

	Current	Projected	Projected	Projected	Projected
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenues					
Service Charges					
Water Property Taxes	\$1,690,000	\$1,736,000	\$1,805,000	\$1,877,000	\$1,952,000
Meter Charges	\$216,000	\$255,000	\$284,000	\$328,000	\$368,000
Water Use	\$933,000	\$1,030,000	\$1,126,000	\$1,261,000	\$1,390,000
Wastewater Charges	3,671,000	3,770,000	3,921,000	4,078,000	4,241,000
4% Delinquency	(260,000)	(272,000)	(285,000)	(302,000)	(318,000)
Reimbursements	240,000	10,000	10,000	10,000	10,000
Capacity Fees	<u>65,000</u>	<u>781,000</u>	<u>1,195,000</u>	2,956,000	2,565,000
Total Revenues	6,555,000	7,310,000	8,056,000	10,208,000	10,208,000
Operating Expenses	4,860,000	5,152,000	5,307,000	5,466,000	5,630,000
Net Operating Revenues	1,695,000	2,158,000	2,749,000	4,742,000	4,578,000
2012 Revenue Bonds Debt Service	829,000	828,000	832,000	828,000	825,000
Debt Service Coverage	2.04	2.61	3.30	5.73	5.55

Conclusions

BWA recommends that the District implement inflationary cost increases over the next four years to fully fund the cost of providing water and wastewater service to customers. BWA also recommends that the District adjust the fixed water meter fees to AWWA standards so that larger meters have an equitable fee. The rates and charges provided in this report adhere to Proposition 218 standards as they are fair and reasonable to customers and are based on the cost of providing service.

APPENDIX 1
Water Bill Survey of a Single Family Residential Customer (1" meter, 19 ccf/month)

Water Agency	Rate (\$/ccf)	Quantity	Units	Total Charge
Town of Discovery Bay (Current, metered) Meter Charge (1")	\$9.25	1	meter	\$9.25
Water Consumption				•
All consumption	\$1.361	19	ccf	<u>\$25.86</u> \$35.11
Town of Discovery Bay (Current, unmetered: 5,00 Fixed Charge (Annual charge/12 months)	1 to 10,000 SF) \$39.04	1	parcel	\$39.04 \$39.04
City of Tracy - Summer Meter Charge (1")	\$20.40	1	meter	\$20.40
Water Consumption Tier 1 (0 to 18 ccf)	\$1.00	18	ccf	\$18.00
Tier 2 (18 to 29 ccf)	\$1.45	1	ccf	\$1.45 \$39.85
City of Rio Vista Fixed Single Family Charge	\$45.02	1	account	\$45.02
Water Consumption All consumption	\$0.54	19	ccf	\$10.26 \$55.28
Mountain House Community Services District (Me				
Base Charge Pledged Facility Charge Water Consumption	\$13.41 \$33.53	1 1	account account	\$13.41 \$33.53
Tier 1 (0 to 12 ccf) Tier 2 (over 12 ccf)	\$0.43 \$0.56	12 7	ccf ccf	\$5.16 <u>\$3.92</u> \$56.02
City of Manteca				•
Meter Charge (1") Water Consumption	\$29.25	1	meter	\$29.25
Tier 1 (0 to 30 ccf)	\$1.43	19	ccf	\$27.17 \$56.42
City of Stockton	4			****
Meter Charge (1") Water Consumption	\$27.80	1	meter	\$27.80 \$0.00
All consumption	\$1.58	19	ccf	\$30.02 \$57.82
City of Antioch	440.00			*
Fixed Charge (3/4" meter) Reduced Pressure Device Charge (3/4" meter)	\$13.89 \$3.27	1 1	meter device	\$13.89 \$3.27
Water Consumption All consumption (Zone 1)	\$2.15	19	ccf	\$40.85
	Ψ=			\$58.01
Mountain House Community Services District (Low Base Charge	v Density) \$17.70	1	account	\$17.70
Pledged Facility Charge Water Consumption	\$44.26	1	account	\$44.26
Tier 1 (0 to 12 ccf) Tier 2 (over 12 ccf)	\$0.43 \$0.56	12 7	ccf ccf	\$5.16 \$3.92

City of Brentwood Fixed Charge (1" meter)	\$28.62	1	meter	\$28.62
Water Consumption Tier 1 (0 to 13.4 ccf)	\$2.15	13.4	ccf	\$28.87
Tier 2 (13.4 to 26.7 ccf)	\$2.66	5.6	ccf	\$14.91 \$72.40
Diablo Water District				
Meter Charge (1")	\$24.29	1	meter	\$24.29
Check Valve Charge Water Consumption	\$4.08	1	device	\$4.08
All consumption	\$2.72	19	ccf	\$51.68 \$80.05
Lathrop				
Meter Charge (1")	\$26.50	1	meter	\$26.50
South County Surface Water Supply Project Water Consumption	\$22.75	1	meter	\$22.75
All consumption	\$1.967	19	ccf	\$37.38 \$86.63
City of Pittsburg				
Meter Charge (1") Water Consumption	\$46.21	1	meter	\$46.21
Tier 1 (0 to 14 ccf)	\$3.02	14	ccf	\$42.28
Tier 2 (over 14 ccf)	\$4.73	5	ccf	\$23.65

APPENDIX 2Wastewater Bill Survey of a Single Family Residential Customer

Wastewater Agency	Rate	Quantity	Units	Total Charge
City of Tracy Fixed Charge	\$31.00	1	housing unit	\$31.00
City of Antioch Fixed Charge (Annual charge/12 months) - City collection Fixed Charge (Annual charge/12 months) - Delta Diablo SD treatment	\$10.24 \$21.85	1	parcel parcel	\$10.24 \$21.85 \$32.08
City of Stockton Fixed Charge	\$34.23	1	housing unit	\$34.23
City of Pittsburg Fixed Charge (Annual charge/12 months) - City collection Fixed Charge (Annual charge/12 months) - Delta Diablo SD treatment	\$15.79 \$21.85	1	parcel parcel	\$15.79 <u>\$21.85</u> \$37.64
City of Brentwood Based on winter water use - new account charge shown	\$47.06	1	housing unit	\$47.06
City of Manteca Fixed Charge	\$51.25	1	housing unit	\$51.25
Ironhouse Sanitary District Fixed Charge (Annual charge/12 months)	\$51.50	1	housing unit	\$51.50
Rio Vista Fixed Charge (Northwest Facility)	\$51.60	1	housing unit	\$51.60
Mountain House Community Services District (Med Density) Base Charge Pledged Facility Charge	\$28.87 \$24.22	1	account account	\$28.87 <u>\$24.22</u> \$53.09
Town of Discovery Bay (Current) Fixed Charge (Annual charge/12 months)	\$55.77	1	parcel	\$55.77
Lathrop Fixed Charge (East Lathrop)	\$59.40	1	housing unit	\$59.40
Mountain House Community Services District (Low Density) Base Charge Pledged Facility Charge	\$33.20 \$27.85	1	account account	\$33.20 <u>\$27.85</u> \$61.05